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Increasing Students' Awareness and Perception of Peer Prosocial Behavior: An Investigation of Tootling

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To the Graduate Council:

I am submitting herewith a dissertation written by Heather Lee Shelton entitled "Increasing Students' Awareness and Perception of Peer Prosocial Behavior: An Investigation of Tootling." I have examined the final electronic copy of this dissertation for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy, with a major in Education.

Christopher Skinner, Major Professor

We have read this dissertation and recommend its acceptance:

Robert Williams, William Whedon, Donald Dickinson

Accepted for the Council:

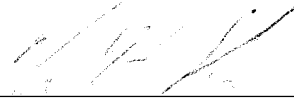
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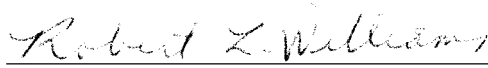
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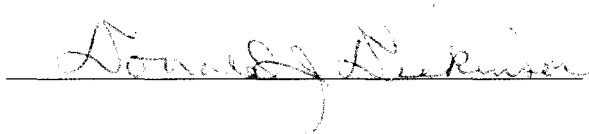


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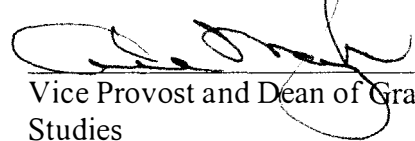
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Acceptance for the Council:



Vice Provost and Dean of Graduate
Studies

INCREASING STUDENTS' AWARENESS AND PERCEPTION OF PEER
PROSOCIAL BEHAVIOR: AN INVESTIGATION OF TOOTLING

A Dissertation
Presented for the
Doctor of Philosophy
Degree
The University of Tennessee, Knoxville

Heather Lee Shelton
August 2002

Abstract

In educational settings, elementary students often monitor and report peer antisocial behaviors. However, few systems have been designed to encourage students to focus on peers' day-to-day prosocial behaviors. The current study attempted to determine if a proactive prosocial behavior program (i.e., tootling) could increase students' awareness of peer prosocial behaviors while also leading to a more positive perception of classmates.

Participants included two control groups (one 3rd-grade and one 4th-grade) and two experimental groups (one 3rd-grade and one 4th-grade). All participating students were assessed pre and post with the Prosocial/Antisocial Attention and Recognition Measure (PAARM) and the Peer Perception Scale (PPS). The PAARM is an experimenter constructed video, designed to measure students' awareness of peer prosocial and antisocial behaviors. The PPS is an experimenter constructed paper and pencil measure, designed to assess students' perception of their classmates. After the PAARM and PPS were administered, the experimental classrooms began the tootling program. Tootling is a technique that combines "tooting your own horn" and "tattling." The tootling intervention used an interdependent group contingency to reinforce students in the experimental classrooms for monitoring and reporting the *prosocial* behaviors of their classmates.

Results indicate that students in the two experimental classrooms did not show an increased awareness of peer prosocial behaviors or a more positive perception of their classmates after receiving the tootling intervention. Evidence did suggest,

however, students may be more aware of peer incidental antisocial behaviors when observing other children engaging in both antisocial and prosocial behaviors while at the same time perceiving their own classmates in a more prosocial manner.

Discussion focuses on limitations associated with the current independent and dependent variables. Specifically, researchers are encouraged to continue to develop and evaluate prosocial awareness and student perception assessment procedures. Additionally, procedures designed to enhance tattling programs are discussed.

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Chapter 1

Introduction

Daily, students engage in unprompted, incidental social behaviors within educational environments. These incidental behaviors include both prosocial and antisocial behaviors.

Although students display prosocial behaviors in the classroom, research suggests that many teachers may react primarily to students' inappropriate behavior (Thomas, Presland, Grant, & Glynn, 1978; White, 1975). For example, White (1975) compared the rates of teacher verbal approval and disapproval in grades 1 through 12. Approval was defined as "verbal praise" and disapproval was defined as "verbal criticism." Results showed that teacher disapproval occurs significantly more than teacher approval, especially after third or fourth grade.

Prevention and Remediation of Antisocial Classroom Behavior

Because teachers typically focus on inappropriate or antisocial behaviors within the classroom they use a variety of approaches designed to decrease these antisocial behaviors. Many teachers use punishment procedures to eliminate and prevent student antisocial behavior. For example, teachers often explain the classroom rules on the first day of school and begin enforcing them through preferred forms of punishment. Classroom rules are often posted in an area easily viewed by all students, with the consequences of not following the rules explained by the teacher or posted with the rules (Skinner, Cashwell, & Skinner, 2000).

There are several reasons why teachers focus their attention on identifying and punishing incidental antisocial behaviors. Teacher reaction can be categorized as operant or social learning. An operant hypothesis posits that the teachers may be reinforced for focusing on and punishing inappropriate behaviors (White, 1975). Following punishment, the inappropriate behaviors may cease, if only for a brief amount of time. The ceasing of the behaviors may negatively reinforce the teacher for focusing on inappropriate, rather than appropriate behaviors. This immediate reinforcement may lead to more teacher disapproval and less awareness of student incidental appropriate or prosocial behaviors.

Social learning theory may also provide an explanation for why teachers focus on students' antisocial behaviors more than prosocial behaviors. Social learning posits that we learn from modeling. Educators may pay more attention to antisocial behaviors because their teachers focused more on antisocial behaviors while they were students. Thus, some teachers may not be cognizant of the incidental prosocial behaviors occurring because their teachers rarely focused on anything but antisocial behaviors.

Because educators often ignore prosocial behaviors while focusing on antisocial behaviors, they may inadvertently be biased against students who display high rates of antisocial behaviors (Algozzine, 1980). Teachers may watch these children more closely because they are expecting to observe antisocial behaviors. Given that teachers are looking for antisocial behaviors, they will almost certainly notice displays of antisocial behavior from these children. This could lead to more

negative reactions toward behaviors that ordinarily are not noticed by teachers, which may detract from their ability to recognize these students' prosocial behaviors. Thus, their management of incidental behaviors results in children escaping or avoiding aversive consequences by sitting quietly and doing little to attract teacher attention. Winett and Winkler (1972) argue that behaviors deemed "appropriate" by educators might in fact have a negative impact on children's learning. Learning often requires active responding by students. However, students may become passive and inactive in order to avoid teacher attention and possible punishment.

Focusing on appropriate academic behaviors may encourage more academic responding and consequently greater achievement (Hughes, 1973; White, 1975). In a similar vein, focusing on incidental prosocial behaviors may enhance students' social skills and ability to work with others, as opposed to merely decreasing antisocial behaviors.

Merely punishing incidental antisocial behaviors can suppress normal incidental social responses that may be necessary for students to develop social skills and establish and maintain friendships. For example, students who are often punished for their incidental behaviors may learn to withhold normal childhood behaviors such as laughing and actively moving around the classroom and interacting with peers in order to avoid punishment (Winett & Winkler, 1972).

Much attention has been given to the prevention and remediation of inappropriate behaviors in the classroom, considerably less attention has been given to incidental prosocial behaviors (Skinner, Neddenriep, Robinson, Ervin, & Jones, 2002).

It is important for educators to encourage incidental prosocial behaviors in the classroom in order for the behaviors to be maintained. However, it is difficult for many teachers to encourage incidental prosocial behaviors because they may not even be aware the behaviors are occurring in their classrooms (Algozzine, 1980; Thomas et al., 1978; White, 1975).

Because many teachers are not aware of incidental prosocial behaviors it is unlikely that students are being encouraged to reinforce one another's prosocial behaviors. Therefore, students may also need to be encouraged to focus their attention on classmates' prosocial, as opposed to antisocial behaviors. The primary purpose of the current study was to determine if a proactive prosocial behavior program could increase students' awareness of incidental prosocial behaviors displayed by peers while also leading to a more positive perception of classmates.

Chapter 2

Review of the Literature

Researchers have shown that children can be taught prosocial behaviors (DuPaul, & Eckert, 1994; Stumbo, 1995), but in order for these skills to be maintained they must be reinforced within their natural environment. There are numerous social skills curricula used to teach prosocial behaviors. However, everyday children are engaged in incidental prosocial behaviors that are too often ignored. This chapter will focus on the importance of encouraging and reinforcing prosocial behaviors in the classroom through positive peer reporting and tooling.

Children Learning to Focus on Inappropriate Behaviors

Learning to punish incidental antisocial behaviors. Social learning research has shown that young children learn by modeling adult behavior (Bandura, 1965). Given that children spend approximately half of their waking hours with teachers, it is not surprising that they model teachers' behavior.

Social learning theory suggests that children who consistently observe teachers punishing socially inappropriate behaviors may also learn to punish students whom they see displaying these behaviors. Support for this modeling comes from the group contingency literature. As young as second grade, students appear to have acquired a general approach to reacting to peers' classroom behaviors (Pigott, & Heggie, 1985). When group contingencies target students' social behaviors, peers often threaten or punish students who misbehave. However, academic problems (e.g., what is 2 x 2) are

to be addressed with support, teaching, and reinforcement (Pigott, & Heggie, 1985; Skinner, Skinner, Skinner & Cashwell, 1999).

Smith and Fowler (1984) used an A-B-A-C design to provide evidence that children, as young as kindergarten, could monitor and manage disruptive peer behavior. The researchers used token reinforcers to decrease the disruptive behavior of students during a transition period. The children were trained to publicly award and withdraw points based on peer behavior. Smith and Fowler argue that children are able to more closely monitor one another's behavior in a variety of situations when the teacher may be unable to provide his or her full attention.

Smith and Fowler (1984) used peer monitoring to reduce disruption and nonparticipation of children with behavior problems. The results suggest that peer monitoring might work as well as teacher monitoring. This study demonstrates how young children can be taught to be aware of inappropriate behaviors and provide punishment (withdrawal of points) for these behaviors.

Tattling. Although students display prosocial behaviors within the classroom the focus is primarily on their incidental antisocial behaviors. Because students are better able to monitor one another's behaviors, they may take it upon themselves to provide the punishment they deem appropriate (Skinner et al., 2002). Teachers may not always be aware of punishment techniques being used by students to control one another's behavior. Peer punishment may take the form of verbal threats or verbal abuse that may not be apparent to the teacher.

Tattling is the most common approach students use to decrease peer antisocial behavior. Tattling may cause students and educators to focus on antisocial behaviors. Hennington and Skinner (1998) argue that teachers and students may not realize they are focusing on antisocial behaviors, rather than reinforcing prosocial behaviors.

Many teachers are concerned about the amount of tattling that occurs in the classroom on a daily basis (Galebach, Kapaun, Majors, & Duggan, 1998; Perks, 1996; Williams, 1989). A number of concerns addressed by Hennington and Skinner (1998) include the following: (a) tattling takes time away from other activities in which the teacher and the students could be participating; (b) peers who exhibit more antisocial behaviors may be perceived more negatively; (c) children may threaten one another to prevent tattling; and, (d) because teachers are not always present during the incident, they may have to base their decisions solely on students' reports of peer behavior.

In addition to these negative side effects associated with students monitoring and reporting peers' incidental antisocial behaviors (i.e., tattling), high rates of tattling may decrease students' awareness of and respect for classmates' incidental prosocial behaviors. Thus, focusing on peers' incidental antisocial behaviors is likely to cause students to form negative perceptions of classmates (Skinner et al., 2002).

Peer rejection. Researchers agree that peer relations are instrumental in the development of prosocial behaviors during childhood (Coie & Cillessen, 1993). Children who are rejected by their peers may not learn appropriate prosocial behaviors and this may lead to more severe social problems in adulthood. DeRosier, Kupersmidt, and Patterson (1994) studied peer rejection by examining peer nomination

questionnaires for children in grades two through four over a period of four years. The researchers found that students who were rejected by peers were more aggressive than other children. Thus, a cycle can occur where a student is aggressive, which causes peers to react in a negative manner (e.g., “I am going to tell the teacher you hit me”) that may encourage even more aggressive or socially inappropriate behaviors (e.g., “If you tell I will smash your face in”) from the aggressive children (Bierman & Wargo, 1995; DeRosier et al., 1994).

This type of cycle contributes to the process of peers rejecting children who engage in higher rates of incidental antisocial behaviors. Peers form perceptions of the aggressive child based primarily on their antisocial behaviors and the cycles described earlier serve to support these perceptions and fulfill the bias (Coie & Cillessen, 1993). Thus, children who are frequently rejected by peers are confronted with negative expectations and interpretations of their behaviors by their peers. Clearly aggressive behaviors may be directly responsible for peer rejection. However, negative expectations and interpretations of their behaviors may exacerbate peer rejection and allow for fewer opportunities for these students to interact with peers and acquire more appropriate social behaviors (Bierman & Wargo, 1995).

One of the side effects of classrooms that encourage students to monitor and report only peers’ incidental inappropriate behaviors is that these day-to-day procedures can further encourage peer rejection. Rejected students whose incidental prosocial behaviors are ignored are likely to have trouble altering peers’ perceptions and may remain rejected. Additionally, if these students are not encouraged to engage

in prosocial behaviors by their teachers or peers, these behaviors are unlikely to be maintained (Coie & Cillessen, 1993). This pattern may explain why researchers have found that children who have been rejected may continue to face peer rejection even when they change peer groups (Bukowski & Newcomb, 1984; Coie & Dodge, 1983). When children continue to face peer rejection it can have damaging emotional effects (DeRosier et al., 1994).

Encouraging Prosocial Behaviors

Social skills training. The development of prosocial behaviors during childhood is extremely important. It begins after birth and is influenced by personal and environmental factors (Elliott, Racine, & Busse, 1995). Social skills training for young children has become popular in the research because of the concern over childhood inappropriate social behaviors leading to adult maladjustment. Because social skills deficits are related to problems later in adulthood it is important to encourage prosocial behaviors while children are young (Elliott & Gresham, 1993; Elliott et al., 1995; Parker & Asher, 1987).

Currently there is no standard definition for prosocial behavior. Researchers appear to focus on behavioral or cognitively-based definitions. A behavioral-based definition looks at how beneficial the interaction is for the parties involved, while a cognitive-based definition involves problem solving and having the ability to see another person's perspective (Stumbo, 1995).

Elliott and Gresham (1993) define prosocial behaviors as, "socially acceptable behaviors, exhibited in specific situations, that predict important social outcomes for

children and youth” (p. 287). For Sheridan, Maughan, and Hungelmann (1999), “to be considered socially skilled, a child must perform behaviors in a manner that is flexible and responsive to social/environmental demands and conditions” (p. 86). Although there is not a standard definition, researchers agree that some of the socially desirable behaviors for young children are sharing, helping, initiating relationships, making requests, giving compliments, and saying “please” and “thank you” (Gresham, 1995). These skill clusters are not all encompassing, but they provide examples of a variety of behaviors that become important during early childhood and continue to be of great importance throughout adulthood.

Elliott and Gresham (1993) define three theoretical frameworks for training social skills: operant, social learning, and cognitive-behavioral. Operant training involves the controlling of antecedents and consequences of target behaviors and providing reinforcement for a change in those target behaviors (Elliot & Gresham, 1993). Contingent social reinforcement is an operant intervention procedure that often involves an adult socially reinforcing (e.g., praising) the prosocial behaviors displayed by a child.

Although reinforcement can be used to enhance the acquisition and maintenance of socially desirable behaviors, children need to have the opportunity to practice their skills and receive reinforcement. Thus, to promote social skills, children must have opportunities to display prosocial behaviors and then receive reinforcement for these behaviors.

Although educators encourage prosocial behaviors, in many cases the children are not consistently reinforced when they display these behaviors. Instead children often are punished when they display antisocial behaviors (Skinner et al., 2000). Thus, even after children acquire social skills, if the environment does not reinforce these interactions, maintenance is unlikely (Elliott & Gresham, 1993). Reinforcement is, therefore, an important part of social skills training and is commonly a part of social learning, operant, and cognitive-behavioral techniques.

Social learning theorists posit that children learn prosocial and antisocial behaviors by observing others' behaviors and the consequences for those behaviors (Elliott & Gresham, 1993). Role-playing, peer mediation, and self-instruction incorporate social learning (e.g., modeling) to bring about behavior change. Social learning theory suggests children's behavior can be vicariously reinforced by watching someone receive reinforcement for displaying a target behavior and likewise punished when they observe someone else's behavior being punished (Elliott et al., 1995). Thus, children may not perform behaviors that they see punished in others, but they will perform behaviors that they see reinforced in others (Elliott et al., 1995).

Another type of social skills intervention based on social learning theory is peer mediation. Peer mediation can be instrumental in acquiring prosocial behaviors. This technique involves peers in the process of promoting the prosocial behaviors of children. In many cases, the children monitor one another's prosocial behaviors and in some instances provide reinforcement. Children may receive reinforcement for helping someone else, and this may increase their helping of other children. This

approach is beneficial because it reduces educators' workload (Elliott et al., 1995). In addition, children have the ability to monitor peer behaviors because they are consistently in contact with one another.

The final theoretical framework for training social skills is the cognitive-behavioral approach. This technique uses coaching, self-regulation, and problem-solving skills to change thoughts, which in turn leads to a change in behavior (Elliott & Gresham, 1993). Coaching is an effective cognitive-behavioral technique that is often used for social skills training (Elliott & Gresham, 1993). Coaches use verbal instructions to explain the desired behaviors to the child, then the child and the coach rehearse the behaviors, and the coach provides feedback while the behaviors are being rehearsed. Elliott and Gresham (1993) explain that most social skills interventions for young children use modeling, coaching, and reinforcement to increase prosocial behaviors. These interventions can be used with groups of children, one-on-one, as pull out methods, or in the natural environment (e.g., classroom, playground).

Educators use various interventions to enhance prosocial behaviors. There are a number of popular social skills programs used in schools to teach prosocial behaviors (Stumbo, 1995). Researchers have shown that social skills training can be effective when done appropriately, but concern exists regarding the lack of generalization and maintenance of prosocial behaviors (DuPaul & Eckert, 1994). Skinner et al. (2002) discusses several limitations of social skills programs. The authors argue that many social skills curricula focus on teaching the skills when in actuality the children may already have social skills but need the opportunity to

practice the skills in order to promote generalization. Children who are reinforced for displaying prosocial behaviors within their natural environment will be more likely to maintain these behaviors.

Entrapment

Prosocial behaviors can be taught to young children, but the behaviors must be reinforced within natural social environments in order to promote the desired behaviors. McConnell (1987) reviewed the literature on entrapment effects and generalization of social skills training on elementary school children with behavioral disorders. According to McConnell, entrapment occurs when a newly learned response is reinforced with naturally occurring reinforcers (e.g., peers). McConnell argues that entrapment could occur when another child in their natural environment reinforces a child's social behavior. McConnell emphasizes the importance of entrapment because it will lead to generalization across settings after a social skills intervention has been concluded. In order for entrapment to occur naturally, students must be aware of peer prosocial behavior. The use of peer mediation techniques can successfully promote entrapment.

Peer Mediation

Prosocial behaviors displayed by children in the classroom should be reinforced in their natural environment. Throughout the day, children have the opportunity to monitor their peers' behaviors because they are often interacting with one another. Peer mediation is a technique that involves peers in the process of promoting the prosocial behaviors of children. In many cases, the children monitor

one another's prosocial behaviors and in some instances provide reinforcement.

Children may receive reinforcement for helping someone else, and this may increase their helping of other children.

Based on the amount of influence children have on their peers, it is only logical that peers should be able to promote prosocial behaviors among one another. One approach to peer mediation was provided by Strain, Shores, and Timm (1977). The researchers were able to successfully train two 4-year-old children to intervene with a group of boys with mental retardation. The children received training that lasted for 20 minutes over a period of 4 days. The children were taught verbal and motor behaviors to use while initiating social interactions with the target children (e.g., "Let's play ball" and then roll the ball to someone). The researchers concluded that the target children began responding more to initiations by the children and the initiations of all but one of the target children increased.

Paine et al. (1982) examined the effects of incorporating functional mediators to promote maintenance of prosocial behaviors. The researchers were trying to increase the social interactions of nine elementary school children through the use of *Procedures for Establishing Effective Relationship Skills* (PEERS) program.

Observational data was collected on each student's prosocial behaviors daily during recess. The children's classmates were a part of the training sessions. They helped the target children practice social skills by using role-playing techniques. The children's classmates also worked as helpers for the target children by assisting them to earn points for a token reinforcement system. As helpers, they talked and played with the

children to help them earn their points for social interactions. The target children showed an increase in their social interactions that were maintained over 2 months. Maintenance may have been promoted by the use of a social skills intervention for an extended period of time coupled with the use of common stimuli (e.g., peer interaction in natural environments; DuPaul & Eckert, 1994).

Gronna, Serna, Kennedy, and Prater (1999) incorporated the use of common stimuli (i.e., peers) in training prosocial behaviors. The target child, a 2.5-year-old girl, and four of her classmates were taught prosocial behaviors in the classroom. Puppets were used to introduce the following target behaviors: greeting, responding to conversations, and initiating conversations. Once daily social skills training was complete, the children went directly to recess to interact with their classmates. The fact that the target child had the opportunity to be reinforced by those same peers through reciprocal interactions directly after training may have been an important factor in the promotion of generalization.

Kohler and Fowler (1985) insist that in order to promote generalization and maintenance of social skills, behaviors should be chosen that could lead to reciprocal behaviors in peers. The researchers examined the effects of social skills training for three young girls. The girls were trained to offer invitations to their peers (e.g., inviting them to play and offering to share). The training began by providing instruction for prosocial behaviors to the girls, and then modeling was used to provide examples of appropriate behaviors. Role-playing allowed the girls to practice the behaviors and feedback was given by the instructor during the training sessions. The

researchers concluded the social behaviors exhibited by the girls that were consistently reciprocated by peers helped to maintain prosocial behavior.

A number of different contingencies can be used to accelerate prosocial behaviors in children. Peer mediation has been used in combination with group contingencies to increase prosocial behaviors (Ervin, Johnston, & Friman, 1998). Group contingencies allow educators to alter the students' natural environment in order to reinforce desirable behaviors. Instead of focusing on antisocial behaviors, the students are provided with the opportunity to encourage one another to engage in prosocial behaviors during day-to-day activities. Walker and Hops (1973) used peer mediation with a socially withdrawn child. A classroom of children watched a video demonstrating appropriate social interactions. A group contingency was implemented to allow classmates to earn tokens by getting the target child, an elementary school girl, to initiate interactions. The researchers found that there was a significant increase in the initiation by the peers and the isolated child. These results provide evidence that the social behaviors of withdrawn children may improve when a group contingency is used to reinforce peers for engaging in behaviors designed to encourage target social behaviors in classmates.

Positive Peer Reporting. Evidence has been provided to show that peers can effectively promote behavior change in one another. Positive peer reporting is a peer mediation technique that reinforces peers for recognizing the appropriate behaviors of socially rejected children (Ervin et al., 1998). Positive peer reporting uses public

acknowledgement of peer prosocial behavior to increase reinforcement for already occurring behaviors (Skinner et al., 2002).

A study conducted by Jones, Young, and Friman (2000) involved increasing peer praise of three socially rejected, delinquent youth. Sociometric ratings were used pre- and post-intervention to assess the social status of all students, specifically focusing on the targeted students. Cooperative statements made by the three participants were the primary dependent variables. Baseline data was collected on cooperative statements before the intervention began. Students were trained daily by their teachers to use positive peer reporting. In this study, the students were rewarded for publicly reporting positive features of a rejected peer's behavior. The students were awarded points for praising the behaviors of the target students. The students could use the points to gain privileges.

The teacher taught the students about positive peer reporting during a 20-minute training session. This training allowed the teacher to demonstrate how to provide appropriate compliments to the target students. Each target student was given the title of the "star" for a week. At the end of class, the other students had the opportunity to compliment the star based on something the student said or did during the course of the day. Students were given the following instructions: (a) look at the person; (b) smile; (c) report a positive comment or action they made; (d) say "good job" or "way to go." After the target student was complimented, the target child was allowed to praise students. Anyone providing compliments was given points that could be exchanged for privileges.

The researchers found that positive peer reporting may lead to an increase in prosocial behaviors by the target students toward their peers, while also increasing the rejected youths' social status. Positive peer reporting can change the way behaviors are reinforced in treatment settings. The literature primarily focuses on the role peers play in reinforcing classmates' incidental antisocial behaviors (Jones et al., 2000). This study demonstrates that peers can also reinforce prosocial behaviors.

Ervin, Miller, and Friman (1996) positively reinforced the peers of a thirteen-year-old, socially rejected girl for publicly reporting positive aspects of her behavior. Two other students were also targeted in order to prevent the girl from being singled out by her peers. The intervention allowed students to earn points that could be exchanged for privileges once they made positive statements about the target students. The last five minutes of class were designated for students to compliment the target students. Observational data was only collected on the rejected girl's social interactions and scored as either positive or negative. The researchers wanted to find out how this would effect the girl's social interactions and acceptance by her peers. Results showed that the intervention benefited the target child and her peers. There was a decrease in the target child's negative behaviors and an increase in her positive social interactions and peer acceptance. The target child received positive attention while the class received a reward, and the teacher did not have to spend as much time managing the girl's inappropriate behaviors.

Ervin, Johnston, and Friman (1998) also used positive peer reporting to improve the social interactions of a socially rejected six-year-old girl in the first

grade. The researchers wanted to test the effectiveness of the intervention with younger students in general education. The targeted child's social status was measured by sociometrics, teacher reports, and observations. As with the Ervin et al. (1996) study, the researchers targeted other students so the child was not singled out. The intervention included a group-oriented contingency to reinforce students for making positive comments about targeted classmates. The results showed that the targeted student's positive social interactions increased while her negative social interactions decreased.

Bowers, Woods, Carlyon, and Friman (2000) used positive peer reporting to improve the prosocial behaviors as well as peer acceptance of four youth placed in residential care due to antisocial behaviors. The youth were chosen based on reports by teachers that they were rejected by their peers (Bowers et al., 2000). During the intervention, peers were told that a Most Valuable Person (MVP) would be randomly chosen each week. Youth in the group home were informed that they could earn points by reporting prosocial behaviors displayed by the MVP. The peers of the four students were assigned the title of MVP during the withdrawal phases of the intervention. Observations conducted during free time were used to record the target students' interactions as either positive or negative. The researchers found that the intervention increased the amount of social interaction displayed by the rejected youth.

Grieger, Kauffman, and Grieger (1976) studied the effects of peer reporting. Their study examined the use of peer reporting to decrease the aggressive behaviors

while increasing the cooperative behaviors of kindergarteners. The participants included 90 children enrolled in kindergarten. Two interventions took place. During Intervention I, the teacher told the children that they would be given the opportunity to report a child who had been friendly to them during playtime. The children were instructed to name the child and the friendly behavior displayed. The children reported as being friendly by their classmates were allowed to pick a happy face badge. The students were instructed not to list their own behaviors and children who reported their own behaviors were not rewarded. The researchers explained that the teachers did not praise the students who received badges. A reversal phase was implemented by instructing the students to report a classmate who was unfriendly during their playtime. Again students were instructed to name the student and the behaviors exhibited. The teachers did not say anything to the children who displayed unfriendly behaviors toward classmates.

Intervention II was implemented after the reversal phase. The second intervention was the same as the first except that the badges were not used. Positive comments from classmates were the only reinforcement (Greiger et al., 1976). The researchers found that peer reporting led to increased cooperative play and decreased aggression. The researchers also argue that the present study suggests that students, without teacher initiation, can increase awareness of peer prosocial behavior. Teachers reported that generalization effects carried over to cleanup time. The teachers also reported that children were interacting more with isolated children, and they received praise from these children during the interventions.

Tootling

Tootling is a program developed by Skinner, Cashwell, and Skinner (2000). This intervention technique is designed to increase the awareness of prosocial behaviors occurring in the classroom without drawing attention to antisocial behaviors. According to Skinner et al. (2000) tootling is a combination of “tooting your own horn” and “tattling.” Tootling is based on the premise that students are not aware of peer prosocial behaviors because they are focused on antisocial behaviors displayed by their peers (Skinner et al., 2002). Tootling uses interdependent group contingencies to reinforce students for monitoring and reporting the prosocial behaviors of any classmate (Skinner et al., 2000).

Skinner et al. (2000) examined the effects of a proactive prosocial behavior program on a fourth-grade classroom. An A-B-A-B withdrawal design was used during the experiment. The students were taught to report their classmates’ prosocial behaviors during two 15-minute training sessions. The researchers provided examples and then the students were asked to give their own examples of tootles (e.g., a student helping another student with their homework). The students were provided with index cards and instructed to record their peers’ prosocial behaviors. The children were instructed to record who, did what, and for whom each time they saw an incidence of peer prosocial behavior. The students were instructed to only report peer prosocial behaviors. Baseline data were collected for 3 days by instructing the students to implement the tootling program; no reinforcement was provided.

During the treatment phase an interdependent group-oriented contingency and publicly posted feedback procedure were used. The students were informed that when the class accumulated 100 tootles they would receive a 30-minute recess. A cardboard ladder was placed on the wall to record the daily number of tootles. A withdrawal of treatment was implemented after the students met their second goal. The students were instructed to record tootles, but the cumulative tootles were not displayed and no rewards were offered for tootling. After 3 days of withdrawal, the treatment was reinstated. The researchers found that tootling training coupled with the interdependent group contingency increased tootling rates.

Cashwell, Skinner, and Smith (2001) replicated the findings of Skinner et al. (2000) with 17 second-grade students. An A-B-A-B design was also used to measure the effects of publicly posted feedback and group reinforcers. The students were trained to report peer prosocial behaviors. As with the previous study, the students were instructed to only record their peers' prosocial behaviors. After training baseline data were collected for 7 days on the number of prosocial behaviors reported. The group contingency was implemented during the intervention phase and a goal was established (i.e., 100 reports). Once the predetermined goal was met the class earned a group reinforcer. After the class met two goals the experiment returned to baseline and students were instructed to report prosocial behaviors. However, cumulative tootles were not posted and no reinforcer was established. Baseline data were collected for 4 days followed by a return to intervention. Results provide further evidence that young children can be taught to report peer prosocial behaviors. The

researchers also argue that the intervention has strong applied validity. According to Cashwell et al. (2001) the class continued the intervention for the rest of the school year.

Summary and Purpose

Everyday, children engage in incidental prosocial and antisocial classroom behaviors. Teachers and students often react to antisocial behaviors with punishment but they may not even be aware of all the incidental prosocial behaviors that occur.

Although prosocial behaviors are often overlooked in educational settings, countless empirical studies focus on the development of social skills. Research has shown that social skills can be effectively taught by way of operant, social learning, and cognitive-behavioral techniques (Elliott & Gresham, 1993). However, research also suggests that generalization of these skills to natural social environments can be difficult (DuPaul & Eckert, 1994). One solution is to alter classroom environments so that they support these prosocial behaviors. Entrapment can occur when skills are reinforced within the child's natural social environment through techniques such as peer mediation (McConnell, 1987).

Peer mediation (e.g., positive peer reporting and tootling) research shows that peers can effectively monitor and report peer incidental prosocial behaviors. Furthermore, research on positive peer reporting suggests that such procedures enhance target students' social status.

Whereas positive peer reporting procedures have been shown to be effective in remedying social problems, class-wide tootling procedures may prove useful in

preventing social-behavioral problems. Specifically, enhancing an entire class' focus on incidental prosocial behaviors may: (a) increase students' awareness of peer incidental prosocial behavior; (b) enhance students' perceptions of classmates; (c) increase teachers' awareness of students' appropriate behaviors; (d) decrease the amount of tattling occurring within the classroom; (e) allow teachers to spend more time on educational activities rather than dealing with tattling issues; and (f) decrease instances of antisocial behaviors displayed by students toward peers (Skinner et al., 2000).

Although class-wide tootling programs are promising, previous researchers have merely shown that the procedure increases rates of reporting of peer prosocial behaviors. If class-wide tootling is to prevent social and behavior problems within the classroom, the program must increase students' awareness of peers' prosocial behaviors. However, researchers have not examined the effects of a proactive prosocial behavior program on students' awareness of prosocial behaviors. Thus, the primary purpose of the current study is to determine if a class-wide tootling program can increase students' awareness of peers' prosocial behavior while also leading to a more positive perception of classmates.

Chapter 3

Methodology

Participants

Participants in this study included students from an elementary school in the Southeastern United States. This school is located in a low-income urban setting. Approximately 80% of the students receive free or reduced lunch. The racial make up of the school is predominately Caucasian, with African American students making up 20% of the school population.

Participants for this study were recruited in the following manner. The primary experimenter met with the assistant principal and described the general goals and procedures associated with the current study. After securing the assistant principal's consent, the assistant principal suggested two 3rd-grade teachers and two 4th-grade teachers who might be interested in participating in this experiment. Following a meeting with the primary experimenter, all four teachers agreed to participate.

Once the four female teachers agreed to participate, formal permission to conduct this study was solicited from the school district and the University where the primary experimenter was enrolled. Institutional permission to conduct this study was secured from both the district and the University.

Subsequently, one classroom from the third-grade and one from the fourth-grade were randomly selected to serve as experimental classrooms. For each grade, the students in the other classrooms served as a control group.

The treatment involved a class-wide procedure. Thus, all students in the experimental classroom participated in the day-to-day treatment activities. However, only students who provided written informed parental consent and student assent were assessed to determine the impact of the treatment.

The final pool of participants included:

1. 20 students (12 female and 8 male) in the third-grade experimental classroom.
2. 18 students (9 female and 9 male) in the third-grade control classroom.
3. 14 students (8 female and 6 male) in the fourth-grade experimental classroom.
4. 15 students (8 female and 7 male) in the fourth-grade control classroom.

Setting

For each group, assessment procedures were run in the students' classrooms. The experimental classrooms also participated in the intervention program. The intervention involved day-to-day peer monitoring and reporting. Although all reporting took place in the students' classrooms, students could report incidental prosocial behaviors that occurred across environments (e.g., cafeteria, playground, hallway) during the school day.

Design

A pretest/posttest comparison group design was used to evaluate the intervention and determine if the tootling program altered students' awareness of their peers' prosocial and/or antisocial behaviors and their perception of peers.

Because the intervention was class-wide, intact classes were used and students could not be randomly assigned to experimental or control groups. However, classrooms were randomly assigned to an experimental or control group.

Dependent Measures

Two assessment procedures were used in this study. The Prosocial/Antisocial Attention and Recognition Measure (PAARM) was an experimenter constructed assessment procedure designed to measure students' awareness of peers' prosocial and antisocial behaviors. Students first watched a 10-minute videotape of five non-professional child actors engaging in incidental classroom behaviors. The video showed the students engaging in both prosocial and antisocial behaviors. The video was constructed with students engaging in six planned incidental prosocial behaviors and six planned antisocial behaviors.

The six prosocial behaviors included:

1. One student loaned another student lunch money.
2. One student loaned another student a sheet of paper.
3. One student taped another student's homework assignment back together after it accidentally ripped.
4. One student helped another student fix the pencil sharpener when it jammed.
5. The students who had finished their work were given permission to talk quietly and a couple of girls invited a peer to join their group.
6. One student assisted another student in finding the correct homework page.

The six antisocial behaviors included:

1. One student kicked another student's books.
2. One student refused to share her math book with a student who forgot his.
3. One student stole an eraser off a desk.
4. One student stole a pencil after another student dropped it on the floor.
5. One student cheated off another student's paper when the teacher left the room.
6. One student called another student a "dumb klutz" after the student accidentally ran into her desk.

After viewing the video, participants were instructed to record what they saw happening. Students were then given 10 minutes to describe what they saw on the video via narrative recording. Experimenters scored these narratives by totaling the number of specific (i.e., the six scripted antisocial and six scripted prosocial) behaviors each student recorded. In addition to these specific behaviors, students also recorded other student appropriate and inappropriate behaviors that were not scripted. Reports were scored as general prosocial behaviors when narratives included descriptions of behaviors that were clearly appropriate (e.g., students followed directions) or general prosocial behaviors (e.g., the students were helpful). Reports were scored as general antisocial behaviors when narratives included descriptions of behaviors that were clearly inappropriate (e.g., the students were loud) or general antisocial behaviors (e.g., the students were mean). Using these scores for each student, experimenters calculated two final dependent variables that included a Total Prosocial Score and a Total Antisocial Score.

A second dependent variable consisting of an experimenter constructed paper and pencil measure was used to assess students' perception of their classmates. The Peer Perception Scale (PPS) was administered to all four classrooms pre and post (see Appendix A for complete scale). The measure included 36 yes/no statements measuring prosocial behaviors dealing with instrumental assistance, service assistance, and social/emotional assistance. The items included prosocial (19 items) and antisocial (17 items). A "yes" response to a prosocial item or a "no" response to an antisocial item was scored as 1. A "no" response to a prosocial item or a "yes" response to an antisocial item was scored as 0. Thus, a student could score from 0-36, with a score of 36 being the highest Prosocial Score.

The mean prosocial score for each group was analyzed by comparing the experimental and control groups' percentage scores based on a 0-100% scale. This scale was used to determine how prosocial the participants were during pretest and posttest assessments. The mean was chosen because it allowed the use of all participating students and did not require student data to be discarded if they skipped a question.

Independent Variable

The tootling program designed by Skinner et al. (2000) was used as the treatment for this experiment and was implemented in the two experimental classrooms (one 3rd-grade and one 4th-grade). The tootling program requires students to report peer prosocial behaviors instead of antisocial behaviors. According to Skinner et al. (2000), tootling is a combination of "tattling" and

“tooting your own horn.” Tattling does not usually involve reporting one’s own antisocial behaviors. The tootling program only allows the reporting of peer prosocial behaviors. The tootling program has been shown to increase students’ reporting of peer incidental prosocial behaviors. The program consists of direct instruction in peer monitoring and reporting of classmates’ incidental prosocial behaviors, an interdependent group contingency, and publicly posted feedback to reinforce these reports (Skinner et al., 2000).

Procedures

Pretest. The PAARM was administered to each class separately on the same morning between 8:15-10:15. Administration took about 25 minutes for each classroom.

For each class, students who turned in parental consent and signed student assent forms were administered the PAARM. Students who did not return their permission slips went to another classroom during the administration of the PAARM. Next, the experimenter positioned a stand with a 27-in. television and VCR in the front of the classroom. The students were then moved to desks located in the front of the room so that they could easily observe the video. Each student was then given a blank piece of paper and instructed to write their name, age, gender, and race in the top right hand corner of the paper.

Before the video began the students were given the following instructions: *I am going to show you a video involving a classroom of students that will last approximately 10 minutes. I want you to pay careful attention to the specific*

behaviors (i.e., what the students are doing) in the video because I will ask you to write about it at the end.

Immediately after the video was over the students were given the following instructions: *I want you to write down all of the specific behaviors that you remember the students doing in the video. Don't worry about identifying which student did the behavior; I just want to know what they did. An example might be: A girl jumped up and down. This did not happen in the video, but that is an example of a behavior. Does everyone understand? You may begin.*

The students were allowed to write for approximately 10 minutes. After 10 minutes the experimenter instructed the students to stop writing and collected the narrative recording sheets. These procedures were then repeated with the other three classrooms participating in the study.

The next day all participating students were administered the PPS. Again, separate administrations were conducted with each class and students who did not participate went to another classroom when the PPS was administered. As with the video the students were instructed to write their name, age, gender, and race at the top of the measure.

The PPS was administered in a group format. The experimenter used an overhead projector to display the measure and each student was given a hard copy to circle their response. The researcher read each item aloud while the students followed along and circled "yes" or "no." After all students were finished, the experimenter collected the PPS recording sheets.

Tootling training. The tootling intervention was implemented on Day 3. The experimenter defined prosocial behavior to the experimental groups (one 3rd-grade classroom and one 4th-grade classroom). The experimenter introduced the concept of tootling: reporting peer prosocial behaviors (Skinner, et al., 2000). The experimenter then used the first 20 minutes of class to teach the students to recognize and record their classmates' prosocial behaviors. The researcher provided and modeled appropriate examples of prosocial behaviors that could be reported. After the experimenter explained tootling, the class was encouraged to provide their own examples of prosocial behaviors. The experimenter praised the students when they provided appropriate examples and provided feedback to the children when they gave responses that were not considered to be examples of prosocial behaviors.

The students were instructed to record instances of prosocial behaviors they witnessed occurring between their classmates. The students were directed to only report an instance of peers interacting with peers. The students were reminded that they should not report instances of a peer helping a teacher, and they should not record their own prosocial behavior towards a peer. The students were instructed to place their name and the date on each index card and record the following: (1) Which classmate exhibited the prosocial behavior; (2) The behavior their classmate exhibited; and (3) Who the student was interacting with during the incident.

Index cards were taped on each student's desk, and they were instructed to begin tootling that day. A decorated shoebox was placed on an empty desk at the front of the classroom for both experimental groups. The students were instructed to

place their index cards in the shoebox at the end of the day or when the card was full. Extra index cards were placed beside the shoebox for students who filled their index card before the end of the day.

On Day 4 the experimenter provided the experimental classrooms with a cardboard ladder and a “star” icon to move up the ladder as a way to chart the daily number of tootles. The experimenter explained that once the class reached their target goal they would receive a reward decided on by the class and the teacher. The experimenter talked with the teacher and the students to find out what type of activities they enjoyed doing as a group. This information was used to decide on a reinforcer for the interdependent group contingency. After a reward was decided on the experimenter announced the total tootles from the previous day and shared some examples with the class. The experimenter praised correct examples and also explained why incorrect responses were not appropriate examples. The experimenter reviewed the process for reporting instances of prosocial behavior and instructed the students to report these instances on their index cards.

The two classrooms each had different target goals based on the number of tootles collected on the first day of tootling. The third graders had a target goal of 100 tootles because they collected 70 tootles on the first day of the experiment. The fourth graders had a target goal of 80 tootles because after the first day they had only collected 1 tootle. The experimenter hypothesized that one reason why the students had such a low number was because there had been a substitute who was unfamiliar with the program and was unable to remind students to watch for tootles.

The experimenter also went to the classrooms on Day 5 to review the procedures with the students and to make sure the teachers were completely comfortable with the process. Both teachers were provided with a checklist as a daily reminder of the number of tootles. The teachers were instructed to record the daily number of tootles and to place a check next to the date after announcing the tootles for that day. The teachers were also provided with a brief description of what constituted a tootle and examples to share with the class if they had questions.

Each day the experimenter picked up the tootles at 3:00 p.m. The experimenter collected all tootles and taped index cards on the students' desks for the next day. The experimenter scored the items reported on the index cards at the end of the day. The item received a point if the student had written who, did what, and for whom. After counting the tootles the experimenter e-mailed the daily number of tootles to the teachers before 9:00 p.m. for them to announce at the beginning of class the next morning. Each day the teacher announced the number of tootles and moved the icon up the ladder toward the target goal. These procedures continued until the class met their goal. Once the classes reached their goal they received a reward and then immediately began working toward a new goal.

These procedures lasted until classrooms reached their goals twice. The third-grade class reached their first goal of 100 on the second day of tootling and received 15 extra minutes of playground time the next day. They met their second goal of 150 on the 11th day of tootling and received popsicles the following day. The next day the

procedures were halted and post-treatment assessment procedures were implemented for the subsequent 2 school days for both third-grade classrooms.

The fourth-grade class reached their first goal of 80 tootles on the fourth day of tootling and received popsicles the next day. They met their second goal of 120 tootles on Day 14 and received popsicles the following day. The next day the procedures were halted and post-treatment assessment procedures were implemented for the subsequent 2 school days for both fourth-grade classrooms.

Posttest. After tootling sessions ended (11 days for third grade and 14 days for fourth grade) the PAARM and PPS were readministered following identical procedures to those used during pretesting.

Data Analysis Procedures

A series of repeated measures MANOVAs were used to test for significant differences on each dependent variable. The within-subject factors for the PAARM were time (pretest and posttest) and perception (prosocial or antisocial). The within-subject factor for the PPS was only time (pretest and posttest). The between-subject factors for the PAARM and PPS were group (experimental and control) and grade (third and fourth). Differences were considered significant at the $p < .05$ level.

Interobserver Agreement

A school psychology graduate student independently scored 20% of the responses to the PAARM and 20% of the responses to the PPS. These assessment sheets were randomly selected. Interobserver agreement was then calculated for each PAARM response sheet by dividing the number of agreements on statements

identified as either prosocial, prosocial general, antisocial or antisocial general by the number of agreements plus disagreements and multiplying by 100. For each PPS, interobserver agreement for each assessment was calculated on an item-by-item basis using the same formula. The average total agreement for the PAARM data was 95.37% (75%-100%). The average total agreement for the PPS data was 100%.

Experimental Integrity

Treatment integrity was evaluated for teacher implementation of the intervention. Teachers were given a checklist with the dates of the tootling experiment listed and spaces to record the daily number of tootles (see Appendix B for checklist). Once the teacher listed the daily number of tootles there was a space to check once the tootles had been announced to the class. Each day when the experimenter picked up the tootles, the teacher checklist and the ladder were examined to verify that the daily tootles were being announced and moved up the ladder. The checklists were used to maintain integrity across the two experimental classrooms. Treatment integrity was implemented 100% of the time.

Assessment integrity was assessed while gathering pre and post intervention data. Each of the four teachers was given an assessment integrity checklist to review while the primary experimenter instructed the students during the PAARM and PPS (see Appendix C for checklist). The checklists were used to maintain integrity across all four classrooms. Assessment integrity was implemented 100% of the time.

Chapter 4

Results

This chapter contains the results of the study. The first section addresses the research questions associated with the PAARM data. The second section addresses the research questions associated with the PPS data. The final section provides some exploratory analyses related to PPS scores, PAARM scores, and tootling behavior during the intervention.

PAARM Research Questions

Table 1 displays the means and standard error for PAARM scores for groups (experimental and control), grades (third and fourth), and time (pretest and posttest) for both prosocial reports and antisocial reports. Prosocial and antisocial reports include the 12 planned behaviors on the video (six prosocial and six antisocial) and general prosocial and general antisocial reports.

A repeated measures MANOVA was used to test for group, grade, time, and perception main and interaction effects. Table 2 shows within-subject effects and Table 3 shows between-subject effects.

The primary purpose of this study was to determine if tootling enhanced students' reporting of prosocial behaviors. Analysis displayed in Table 2 show that the time by group interaction was not significant [$F(1,47) = .965, p = .197$]. All other time by group interactions were also not significant: (a) time by grade by group [$F(1,47) = .973, p = .261$]; (b) time by perception by group [$F(1,47) = 1.00, p = .953$], and

Table 1

PAARM Antisocial and Prosocial Statements Based on Group, Grade, and Total

			Pre		Post	
Group			Mean	Std. Error	Mean	Std. Error
Antisocial	Control	3rd Grade	3.071	.201	2.857	.212
		4th Grade	2.636	.227	3.091	.239
		Total Sample	2.854	.147	2.974	.162
	Experimental	3rd Grade	2.143	.201	2.500	.212
		4th Grade	2.000	.217	2.250	.229
		Total Sample	2.071	.149	2.375	.158
Prosocial	Control	3rd Grade	.286	.126	.357	.152
		4th Grade	.455	.142	.455	.171
		Total Sample	.370	.097	.406	.117
	Experimental	3rd Grade	.214	.126	.357	.152
		4th Grade	.083	.136	.333	.164
		Total Sample	.149	.095	.345	.114

Table 2

PAARM Within-Subject Effects

Effect	Wilks' Lambda	F	Hypothesis df	Error df	Sig.
TIME	.883	6.229 ^a	1	47	.016
TIME * GRADE	.973	1.292 ^a	1	47	.261
TIME * GROUP	.965	1.715 ^a	1	47	.197
TIME * GRADE * GROUP	.973	1.292 ^a	1	47	.261
PERCEPT	.068	640.162 ^a	1	47	.000
PERCEPT * GRADE	.980	.983 ^a	1	47	.327
PERCEPT * GROUP	.831	9.546 ^a	1	47	.003
PERCEPT * GRADE * GROUP	.998	.104 ^a	1	47	.749
TIME * PERCEPT	.995	.253 ^a	1	47	.617
TIME * PERCEPT * GRADE	.990	.477 ^a	1	47	.493
TIME * PERCEPT * GROUP	1.000	.004 ^a	1	47	.953
TIME * PERCEPT * GRADE * GROUP	.968	1.571 ^a	1	47	.216

a. Exact statistic

Table 3

PAARM Between-Subject Effects

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Intercept	420.286	1	420.286	622.166	.000
GRADE	.184	1	.184	.272	.604
GROUP	8.726	1	8.726	12.917	.001
GRADE * GROUP	.296	1	.296	.438	.511
Error	31.749	47	.676		

(c) time by perception by grade by group [$F(1,47) = .968, p = .216$]. These data failed to confirm the hypothesis that the tootling program would increase prosocial behavior reports and/or decrease antisocial behavior reports.

Table 2 shows three significant findings. First, there was a main effect for time [$F(1,47) = .883, p = .016$] but not for the time by perception interaction [$F(1,47) = .995, p = .617$]. These analyses confirm that students reported significantly more behaviors during the posttest than during the pretest, regardless of group. The results suggest a possible testing effect.

Table 2 also shows a main effect for perception [$F(1,47) = .068, p < .001$]. This analysis shows that students reported significantly more antisocial behaviors relative to prosocial behaviors. These data support the hypothesis that students may be more aware of and more likely to report peers' antisocial behaviors (Skinner et al., 2002). Additionally, Table 2 displays a significant perception by group interaction [$F(1,47) = .831, p = .003$]. Although both groups reported significantly more antisocial behaviors, the control group reported significantly more antisocial behaviors than the experimental group.

Table 3 indicates a main effect for group [$F(1,47) = 12.917, p = .001$].

Analysis of within-subject effects shows that overall the control group provided more responses on the PAARM than the experimental group.

PPS Research Questions

Table 4 displays the means and standard error for PPS scores for groups (experimental and control), grades (third and fourth), and time (pretest and

Table 4

PPS Prosocial Scores Based on Group, Grade, and Total

		Pre		Post	
		Mean	Std. Error	Mean	Std. Error
Control	3rd Grade	70.313	4.884	72.163	5.813
	4th Grade	57.228	5.221	57.517	6.214
	Total Sample	63.770	3.641	64.840	4.334
Experimental	3rd Grade	49.190	5.044	55.938	6.004
	4th Grade	68.003	5.639	66.165	6.712
	Total Sample	58.597	3.854	61.051	4.587

posttest). A repeated measures MANOVA was used to test for group, grade, and time main and interaction effects. Table 5 shows within-subject effects and Table 6 shows between-subject effects.

It was hypothesized that the tootling program would enhance students' perceptions of their classmates. Table 5 shows a nonsignificant time by group interaction [$F(1,53) = .998, p = .755$] and a nonsignificant time by grade by group interaction [$F(1,53) = .988, p = .430$]. These data suggest that the tootling program did not enhance students' perceptions of their classmates as measured by the PPS.

Table 6 displays a significant grade by group interaction [$F(1, 53) = 6.92, p = .001$]. This analysis shows that the third-grade control group had higher prosocial scores on the PPS than the third-grade treatment group and the fourth-grade treatment group had higher prosocial scores on the PPS than the fourth-grade control group. Although these findings are significant, they do not provide evidence to suggest the tootling program was effective.

Exploratory Analysis

Correlations were run comparing the mean PPS prosocial scores to the total number of prosocial statements from the PAARM. No significant correlations were revealed during pretest or posttest assessments. Analysis indicated a pretest correlation of $.003, p = .984$ and a posttest correlation of $.111, p = .442$. These data suggest that the two measures are not related.

Correlations were also run comparing the daily number of tootles for each student in the experimental group to the total number of prosocial statements from the

Table 5

PPS Within-Subject Effects

Effect	Wilks' Lambda	F	Hypothesis df	Error df	Sig.
TIME	.988	.638 ^a	1	53	.428
TIME * GRADE	.976	1.322 ^a	1	53	.255
TIME * GROUP	.998	.099 ^a	1	53	.755
TIME * GRADE * GROUP	.988	.633 ^a	1	53	.430

a. Exact statistic

Table 6

PPS Between-Subject Effects

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Intercept	434137.880	1	434137.880	529.480	.000
GRADE	3.019	1	3.019	.004	.952
GROUP	565.760	1	565.760	.690	.410
GRADE * GROUP	5675.410	1	5675.410	6.922	.011
Error	43456.419	53	819.932		

PAARM. Unfortunately, students often failed to write their name on their index cards. Thus, only data from the 11 students who wrote their name on all index cards was analyzed. Because the data were not normally distributed, the data were analyzed with a Spearman Correlation. Analysis indicated a correlation of .348, $p = .295$. Although this correlation was not statistically significant, there is an indication of a possible positive relationship. Because data were only obtainable for 11 subjects, insufficient power may have reduced the probability of detecting a significant relationship.

Given that the tootling data were not normally distributed, Mann-Whitney tests were used to determine if tootling differed by gender. Data were obtainable for 31 students (19 females and 12 males). Analysis of gender did not indicate a significant difference [gender ($Z = -.938, p = .367$)]. Females reported an average of 17.21 tootles and males reported an average of 14.08 tootles.

Figure 1 displays the daily tootles for the third-grade and fourth-grade classrooms. A comparison of the two experimental classrooms' daily number of tootles indicated that the daily number of tootles was variable throughout the intervention phase for both classrooms. The third-grade classroom had their largest number of tootles on the first day of the intervention, while the fourth-grade classroom had only 1 tootle on the first day of the intervention.

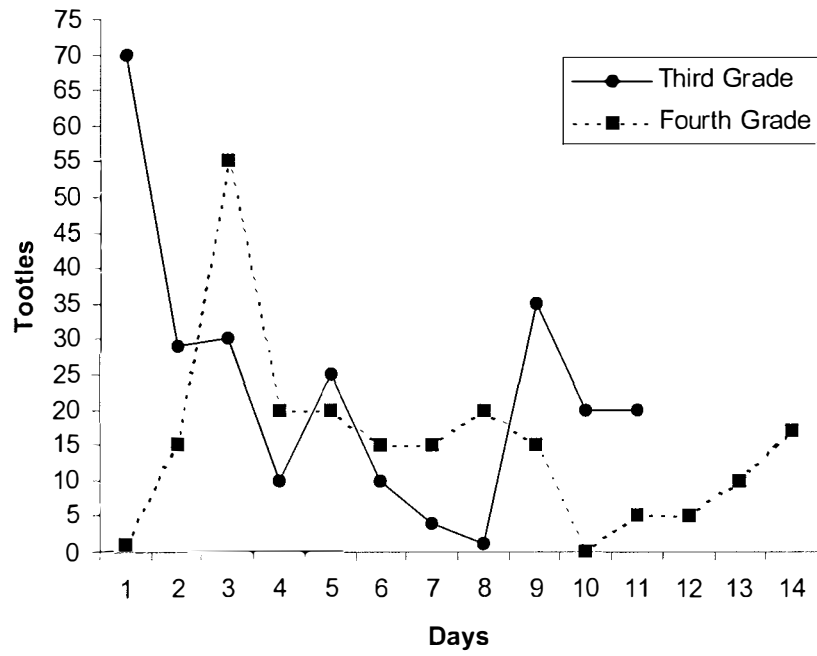


Figure 1. Daily Number of Tootles for Third- and Fourth-Grade Classrooms

Chapter 5

Discussion

This chapter summarizes the findings of the present study. The conclusions and implications of the findings are discussed in terms of the primary dependent measures, as well as limitations pertaining specifically to each dependent measure. General limitations are discussed followed by recommendations for future research.

Conclusions

The purpose of this study was to investigate the effects of a class-wide tootling program on the prosocial awareness and peer perception of third- and fourth-grade students. The results of the current study do support previous research showing that students can be taught to record their classmates' prosocial behaviors (e.g., Cashwell et al., 2001). Analysis of the data did not reveal any significant effects for the tootling intervention when analyzed with the PAARM and PPS data. Thus, the current findings suggest that the tootling program did not increase students' awareness of peer prosocial behaviors or improve their perceptions of their classmates. This finding was supported by the failure to find a significant correlation between the number of tootles to the total number of posttest prosocial statements from the PAARM.

Analysis of the PAARM data did reveal a main effect for perception. The results showed that regardless of group or time, both the control and experimental groups reported significantly more antisocial statements than prosocial statements after viewing the PAARM. This finding supports the hypothesis that students may be more aware of and more likely to report peers' antisocial behaviors as opposed to

prosocial behaviors. However, this finding should be interpreted with caution given limitations associated with measurement procedures.

Limitations and Directions for Future Research

The current results have applied and theoretical implications. Nevertheless, each of these implications should be considered in light of the limitations associated with the current study. The current study had a number of limitations regarding the experimental procedures, the dependent measures used to measure the effectiveness of the intervention, and the intervention itself.

Several limitations related to experimental procedures should be addressed in future research. In the current study, the sample size was limited to four classrooms of students, and only students who returned parental consent and signed student assent forms participated in the study. Although classrooms were randomly assigned to conditions, data analysis indicated that the control groups reported more antisocial statements than the experimental groups. Thus, control and experimental classrooms were not equivalent. Future researchers should conduct similar studies with larger numbers of classrooms randomly assigned to either group to address this threat to internal validity. A larger sample size would also enhance the power and the probability of detecting significant differences.

Treatment integrity is another limitation. Although the teachers followed procedures and announced the daily number of tootles, there was evidence to suggest that the students were not always being encouraged to tootle. For example, on numerous occasions after the experimenter suggested that the third-grade teacher

encourage students to watch for prosocial behaviors she verbalized that the students were “bad” and they never did anything prosocial to encourage. Although the fourth-grade teacher was not as overtly negative about her students’ behaviors, it was difficult to determine if she was encouraging them to tootle.

Additionally, the students doing the tootling did not always put their name on their daily tootles, and due to the small sample size the experimenter was unable to compare individual tootling data to individual scores on the PAARM. To avoid this problem, future researchers should write the students’ names on their index card before placing them on their desks. This would allow researchers to analyze each student’s daily tootles to find out if students only focused on certain students (e.g., their peer group) while tootling or if they focused on the entire class. Furthermore, researchers could compare the number and type of tootles reported by males and females to determine any gender differences. Finally, such analysis would allow researchers to determine and compare the types of prosocial behaviors (e.g., loaning of materials versus assisting with an assignment) reported across students.

Several limitations were also associated with the dependent variables used to measure intervention effectiveness. One limitation is that the same dependent variables were used both pre and post within the same 1-month time period. Results indicated that students reported more statements on the PAARM during the posttest regardless of group, grade, or perception. This significant increase in reports may have been due to a testing effect. Having parallel forms of the PAARM and PPS may eliminate this possible testing effect.

Another limitation associated with the two dependent variables has to do with their reliability and validity. Because both measures were experimenter constructed, no data provided evidence that either measure was reliable, valid, or sensitive enough to detect changes. Correlations between PPS scores and the total number of prosocial statements from the PAARM were not significant. This suggests that the two dependent variables were measuring something different. If the two dependent variables were measuring what was expected, the number of prosocial statements from the PAARM would have been correlated with prosocial scores from the PPS. Future psychometric research is needed to develop measures that allow one to assess students' perceptions of classmates and their awareness of classmates' prosocial and antisocial behaviors.

The PAARM's writing requirement was also a limitation. Students were required to use narrative recording when responding to the PAARM. Although students were encouraged to write without regard for spelling or grammar, students who were not comfortable with their writing abilities may have been inhibited by the task. Inhibition about writing may have kept students from recording all of the behaviors they remembered from the video. Another factor associated with writing may have been that students who wrote slowly might have forgotten some of the behaviors before they had a chance to record them on their paper. Future researchers should consider providing the students with a list of prosocial and antisocial statements from the PAARM, while also including distracters (i.e., behaviors not on

the video), and ask the participants to check or circle the behaviors they remember seeing on the video.

Additionally, the quality of the PAARM is a limitation that should be addressed in future research. The video was experimenter constructed and at times the picture and sound were not of the finest quality. Although the students were seated near the television and the volume appeared to be sufficient, students may have had trouble clearly seeing all 12 of the behaviors. Furthermore, the quality of the sound may have prevented some participants from being able to accurately determine what the students on the video were saying. Future researchers should extend this study with the use of professional video and sound equipment to provide participants with the best quality measure.

A second limitation associated with the quality of the PAARM was the non-professional child actors engaging in incidental classroom behaviors. Only five students were present in the video, and none of them had acting experience. Future research should be done with a larger number of children acting out the behaviors in order for the PAARM to give the impression of a typical general education classroom. The quality of the PAARM could also be improved by recruiting children who have acting experience and are able to naturally and realistically engage in the incidental prosocial and antisocial behaviors.

A final limitation associated with the PAARM was the number of prosocial behaviors students reported. On average, the students reported less than one prosocial behavior during the pretest and posttest. Future researchers should attempt to increase

the number and variability of prosocial behaviors reported across students by providing verbal cues such as “List the prosocial and antisocial behaviors you remember from the video” or “List the most important behaviors from the video.”

Researchers should also examine limitations related to the intervention. The experiment was implemented at the end of the school year and the students’ schedules were less structured due to field trips and other atypical activities. This lack of structure may have made it difficult for students to acclimate to the tootling intervention and consistently tootle. In the current study, both teachers reported that the tootling might have had a stronger impact if implemented at the beginning of the school year and concluded at the end of the school year. One teacher suggested that she would like to use the procedure again the following year. Future studies should be implemented earlier in the school year once students and teachers become more at ease with one another and their daily routines. This level of comfort may allow students and teachers the greatest opportunity to benefit from the intervention.

Teacher participation may have also affected the intervention. The teachers in this study participated voluntarily but at the request of the assistant principal. It was also unclear if the assistant principal asked those specific teachers to be involved because they would be excited about tootling or because they had classrooms that would benefit from focusing on prosocial, rather than antisocial behaviors. Future researchers should determine if teacher commitment to tootling and its possible benefits could enhance the effectiveness of the program.

The brevity of the tootling intervention was also a limitation that should be examined. Students in third and fourth grade have had several years to learn how to focus on and report their classmates' antisocial behaviors (i.e., several years of tattling). A brief (11 days for third grade and 14 days for fourth grade) tootling intervention may not be enough time to reverse the effects of tattling and punishment. A study implementing the tootling intervention over the course of the school year could possibly show significant effects. Additionally, researchers should investigate developmental issues relating to tootling. For example, the procedure may be most effective with younger students who have a briefer history of tattling.

The last limitation of the intervention is that across both experimental classrooms, daily number of tootles showed high levels of variability. Future researchers should attempt to identify variables that contribute to this variability. This inconsistency may reflect variable rates of peer prosocial behaviors. However, tootling may be functionally related to other conditions such as (a) classroom activities (e.g., students may have more opportunities for prosocial behaviors when engaging in group as opposed to individual seat-work activities); (b) time of day; and (c) level of teacher encouragement. Daily tootling data did not show an increasing trend in tootles. Future researchers should determine if enhancing group reinforcement rates (e.g., lower cumulative criteria), immediacy (e.g., encourage teachers to supplement the program by praising students for writing down tootles throughout the school day), or quality of reinforcers would enhance tootling rates.

Summary and Conclusion

Researchers have posited that students display incidental prosocial behaviors on a daily basis, but teachers primarily ignore prosocial behaviors and punish antisocial behaviors, thus leading the students to focus on their peers' antisocial behaviors. The current findings support this hypothesis but provide little evidence to suggest that a brief tootling program can have a significant impact on students' perceptions of their classmates or their awareness of peer prosocial behavior. However, future research is needed before concluding that such class-wide interventions are ineffective.

Because the research on tootling is in its infancy and previous researchers have found positive social effects associated with positive peer reporting procedures, researchers should continue to develop and assess class-wide positive behavior reporting procedures. Specifically, researchers should determine if procedures designed to enhance the focus of groups of students (e.g., entire classrooms) on peers' prosocial behaviors can (a) increase teachers' awareness of students' prosocial behaviors, (b) decrease the amount of tattling occurring within the classroom, (c) allow teachers to spend more time on educational activities rather than dealing with tattling and inappropriate behaviors, (d) decrease instances of antisocial behaviors displayed by students toward their peers, (e) enhance students' prosocial behavior rate, and (f) shape students and adults who value and respect incidental day-to-day prosocial behaviors in others.

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APPENDIXES

Appendix A

Peer Perception Scale

NAME: _____

AGE: _____

RACE: _____

GENDER: _____

The following statements deal with student behavior. If you believe that the statement is true for most of your classmates then circle yes. If you believe the statement is false for most of your classmates circle no. By “most” I mean if you can think of more students who would fit the description than would not.

Circle yes or no for the following statements:

1. YES OR NO Most of my classmates like each other.
2. YES OR NO Most of my classmates make fun of each other.
3. YES OR NO Most of my classmates share.
4. YES OR NO Most of my classmates help each other.
5. YES OR NO Most of my classmates are nice.
6. YES OR NO Most of my classmates would tease another student if they were wearing one black sock and one blue sock.
7. YES OR NO Most of my classmates would make fun of another student if they spilled their drink and got the front of their pants wet.
8. YES OR NO Most of my classmates would return another student’s watch if they found it in the hall.
9. YES OR NO Most of my classmates would laugh and make fun of another student if they had gum stuck in their hair.

10. YES OR NO Most of my classmates would laugh and make fun of another student if they had their jacket on inside out.
11. YES OR NO Most of my classmates would laugh at another student if they were upset because they did not get to go outside to play.
12. YES OR NO Most of my classmates would help another student up if they fell down while playing outside.
13. YES OR NO Most of my classmates would laugh and make fun of another student if they dropped their tray at lunch.
14. YES OR NO Most of my classmates would help another student if they had their hands full and could not open the door.
15. YES OR NO Most of my classmates would make fun of another student who carried an old backpack.
16. YES OR NO Most of my classmates would call another student names if they cried at school.
17. YES OR NO Most of my classmates would give another student a piece of paper if they did not have any.
18. YES OR NO Most of my classmates would ask another student to play if they did not have anyone to play with.
19. YES OR NO Most of my classmates would stick up for another student if another student was teasing them.
20. YES OR NO Most of my classmates would help another student pick up their books if they dropped them.
21. YES OR NO Most of my classmates would only allow another student to play on the computer if the teacher made them.
22. YES OR NO Most of my classmates would be nice to another student even if they dressed funny.
23. YES OR NO Most of my classmates would take another student's candy if it fell out of their pocket.
24. YES OR NO Most of my classmates would tease a student who they did not think was popular.

25. YES OR NO Most of my classmates would loan a student a dime if they needed it.
26. YES OR NO Most of my classmates would tease another student if they saw them giving a family member a goodbye kiss.
27. YES OR NO Most of my classmates would help another student if they said they needed help moving a table.
28. YES OR NO Most of my classmates would make fun of another student because their hair was sticking up.
29. YES OR NO Most of my classmates would help another student calm down if they were angry.
30. YES OR NO Most of my classmates would let another student borrow a pencil if they forgot theirs.
31. YES OR NO Most of my classmates would laugh and make fun of another student if they tripped in the hallway.
32. YES OR NO Most of my classmates would help another student with their homework if they needed it.
33. YES OR NO Most of my classmates would take another student's money if they left it on their desk.
34. YES OR NO Most of my classmates would say no if another student asked to borrow their eraser.
35. YES OR NO Most of my classmates would ask a student what was wrong if they seemed sad.
36. YES OR NO Most of my classmates would help another student clean up if they spilled paint.

Appendix B

Treatment Integrity Checklist for Teachers

Date	Daily # of Tootles	Announcement of Tootles
Wed. 4-25		
Thurs. 4-26		
Fri. 4-27		
Mon. 4-30		
Tues. 5-1		
Wed. 5-2		
Thurs. 5-3		
Fri. 5-4		
Mon. 5-7		
Tues. 5-8		
Wed. 5-9		
Thurs. 5-10		
Fri. 5-11		
Mon. 5-14		
Tues. 5-15		
Wed. 5-16		

Please record the daily number of tootles and check the box after announcing the tootles each day.

Appendix C

Assessment Integrity Checklist for Experimenter

- _____ Passed out blank sheets of paper.
- _____ Instructed students to put their name, age, gender, and race on their paper.
- _____ Read the first set of directions aloud to the class.
- _____ Started the video.
- _____ Stopped the video.
- _____ Read the second set of directions aloud to the class.
- _____ Allowed the students to write for ten minutes.
- _____ Collected the papers.

- _____ Passed out *Peer Perception Scale*.
- _____ Instructed students to put their name, age, gender, and race on their paper.
- _____ Read the directions.
- _____ Read each item aloud while displaying the *PPS* on the overhead projector.
- _____ Collected the *PPS*.

- _____ Teacher Initials

Vita

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